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(12) United States Patent Lin

(10) Patent No.:

US 6,558,708 B1

(45) Date of Patent:

May 6, 2003

(54) METHODS FOR MANIPULATING UPPER GASTROINTESTINAL TRANSIT, BLOOD FLOW, AND SATIETY, AND FOR TREATING VISCERAL HYPERALGESIA

(75) Inventor: Henry C. Lin, Manhattan Beach, CA

(08)

(73) Assignee: Cedars-Sinal Medical Center, Los Angeles, CA (US)

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35

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(21) Appl. No.: 09/546,119

(22) Filed: Apr. 10, 2000

Related U.S. Application Data

(63) Continuation-in-part of application No. 09/420,046, filed on Oct. 18, 1999, which is a continuation-in-part of application No. 09/359,583, filed on Jul. 22, 1999, now abandoned, which is a continuation of application No. 08/832,307, filed on Apr. 3, 1997, now Pat. No. 5,977,175, which is a continuation of application No. 08/442,843, filed on May 17, 1995, now abandoned.

(52) U.S. Cl. 424/490; 424/451; 424/464; 424/474; 424/489

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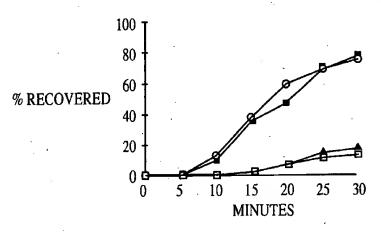
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57) ABSTRACT

Disclosed are a method of manipulating the rate of upper gastrointestinal transit of a substance in a mammal. Also disclosed are methods of manipulating satiety and postprandial visceral blood flow. A method of treating visceral pain or visceral hypersensitivity in a human subject is also described. A method for prolonging the residence time of an orally or enterally administered substance by promoting its dissolution, bioavailability and/or absorption in the small intestine is also described. These methods are related to a method of transmitting to and replicating at a second location in the central nervous system a serotonergic neural signal originating at a first location in the proximal or distal gut of a mammal and/or a method of transmitting to and replicating at a second location in the upper gastrointestinal tract a serotonergic neural signal originating at a first location in the proximal or distal gut.

13 Claims, 6 Drawing Sheets



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